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Planning urban megaprojects in the Gulf: The international consultancy firms in urban planning between global and contingent



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Abstract

Driven by globalization and market openings, many architecture and engineering firms have become global. By focusing on the urban megaprojects in the Gulf, a particular cultural and political context, this paper argues that such firms have a major role in the rapid urban transformation of Gulf countries and act as transfer agents of an international knowledge in the urban planning domain. However, the transfer is adapted by several context-related characteristics, such as local governance, urban knowledge, and regulatory framework. This paper explores the procedural adaptation of these firms to the Gulf Cooperation Council (GCC) in terms of internal structure, methodology, adopted tools, and interaction with the context. The level of learning that results from this transfer is also investigated.

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1. Introduction

The economic diversification of oil-rich Arab states in the Persian Gulf has massively transformed urban landscapes, particularly large urban developments with unprecedented sizes (Acuto, 2010; Al-Hathloul, 2004; Elsheshtawy, 2008). Several studies emphasize the effect of spectacle and fascination (Schmid, 2009) that characterize such

developments. These new urban landscapes are described as products of the globalization of urban policies and sometimes they are considered as a specific product of the particular context of the countries of the Gulf Cooperation Council¹ (GCC). Therefore, GCC studies frequently ask whether these spectacular iconic projects and urban extensions reflect a globalized world with urban models, references, and urban neo-liberalism or result from a set of

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¹GCC countries include all Arab countries of the Persian Gulf, except for Iraq and Yemen. All of its members are monarchies.

cultural, social, and politico-economical contexts that are highly influenced by monarchical systems.

Instead of providing a binary answer, these questions may be addressed by investigating the literature on “mobile urbanism.” “Policymaking must be understood as both relational and territorial, as both in motion and simultaneously fixed, or embedded in place” (McCann and Ward, 2011). Although urban policies are often local, grounded, and tied to specific places (Friedmann, 2005; Peck and Tickell, 2002), contemporary policymaking is fundamentally shaped by a context of “fast policy transfer” (Peck and Theodore, 2001) where “transfer agents” (Stone, 2004), including politicians, practitioners, activists, and consultants among others, transfer their knowledge about urban policies around the world. These transfer agents are broadly categorized under the transnational capitalist class, which includes people and organizations from many countries that operate at a transnational level and are related to transnational social spaces (Sklair, 2005; Olds, 2001; Robinson and Harris, 2000; Carroll, 2009). International consultancy firms are designated as global intelligence corps (King, 1990; Olds, 2001; Rimmer, 1991), and their role has become increasingly crucial worldwide. The emergence of transnational clients, coupled with the development of communication technologies, have transformed these firms into global powerful actors that spread office networks worldwide following the grid of powerful cities (Knox and Taylor, 2005; Faulconbridge, 2010).

International Consultancy Firms in the domain of Urban Planning (ICFUP), which include architecture- and engineering-oriented firms, are the major agents in expanding the channels of cross-border policy transfer (Peck, 2003) and in transferring policies, practices, models, and references that can be translated into urban forms. However, these transferred elements are the objects of an adaptation process that are relative to each local context. Even in the mobile policies and policymaking literature, the term “transfer” is defined as a “socio-spatial, power-laden process in which policies are subject to change and struggle as they are moved” (McCann and Ward, 2011).

ICFUP has a fundamental role in GCC. Major GCC cities undergo a development process and employ several strategies for creating iconic spaces and megaprojects to build a world city image (Andraos and Wood, 2013; Davis, 2007). The spectacular urban growth in GCC (Elsheshtawy, 2008; Al-Hathloul, 2004) significantly depends on foreign knowledge (Ewers, 2013). Ren (2011) ranked many GCC cities (i.e., Dubai, Abu Dhabi, and Doha) as top cities where international consultancy firms in the construction domain had their own branch offices. These rankings reflect the significant role of international firms that implement iconic landscapes and megaprojects. Despite the significant reduction of construction activities during the 2008 global financial crisis, our site survey (see the methodology in the next paragraph) shows that the majority of the international firms have successfully adapted to such event to cater to a new post-crisis optimistic mood.

In this context, this paper emphasizes the crucial role of ICFUP in producing GCC cities, as transfer agents of urban-related knowledge, in the context of megaprojects. Specifically, we examine the following related questions: To what extent do these firms contribute to globalized models and methods to GCC, and what is the weight of the local factors

in shaping these transferred elements? Moreover, how do these firms, which are constrained by local conditions and systems, adapt their operational framework (i.e., how they structure, organize, and mobilize their tools and methodologies) and theoretical references (i.e., concepts, notions, models, and currents on which they base their conception and production) within the transfer process? Despite the importance of international firms in shaping globalized cities, their role and presence in GCC major cities bring many particularities that are related to the scale and the weight of the development to which they contribute. Moreover, despite its powerful status as the major contributor of necessary expertise in building megaprojects—which is the primary tool in the implementation of urban policies in GCC cities—ICFUP are constrained by local factors. These factors include the governance system and the particular, complex, and demanding framework of megaprojects.

Studies on knowledge mobility and policy transfer emphasize different levels of transfer and differentiate transfer, diffusion, and learning (Stone, 2004). “Transfer” involves the processes of struggle and change, whereas “diffusion” describes a trend of successive or sequential adoption of a practice, policy, or program. This trend is contagious rather than chosen and connotes the spreading, dispersion, and dissemination of ideas or practices from a common source (Ibid). Stone (2004) argued that diffusion had several limitations because such concept failed to describe how policies or practices were altered during the adoption process. “Learning” occurs when “policy-makers adjust their cognitive understanding of policy development and modify policy in the light of knowledge gained from past policy experience” (Stone, 2004). In his essay on the knowledge transfer in the United Arab Emirates and the other Gulf states, Ewers (2013) discussed the extent to which the imported expertise can leverage local capacity development. According to Ewers, the levels of learning vary between sectors, of which the financial sector achieves the highest level of local learning by interacting with foreign experts. Similarly, this article discusses the level of learning within a local context that can be identified through the presence of ICFUP and the “transferred knowledge.”

In this paper, ICFUP will be initially examined as an actor that is very evocative of an urban production mode that heavily relies on a new urban planning mode, which in turn is shaped by knowledge mobility, and produces megaprojects as a key output. By relying on the urban planning history literature in the wider Arab and Middle Eastern contexts, the introduction emphasizes the particularity of the situation of GCC, which is marked by a relatively recent and brief urban planning history, and of ICFUP, which functions as the chief urban planning knowledge mobility channel and the major urban planning producer. These firms will then be used as an analytical framework to understand the market and the politico-economic context. The interactions between the context and the firms will be underscored. Specifically, the market conditions and challenges that contribute to the adaptation process of ICFUP will be unveiled. We subsequently examine the diversity of ICFUP and categorize these firms into architectural firms and engineering-architectural firms based on their operational modalities, strategies, and structures. Despite their similar

role in contributing to the building of an urban space in GCC, the divergence and convergence of these firms in terms of how they adapt their knowledge and operational modes to the urban planning context in GCC and how they contribute to knowledge transfer in the urban domain will be explored in this paper.

This study uses a corpus of 100 master plans of urban megaprojects across GCC cities as well as their respective planning consultants as references to answer the aforementioned questions. This paper has been written in parallel to a doctoral thesis that focuses on wider and more diversified subjects, including the topic of this paper, thereby explaining the diversity of our data sources and tools. Several sources have been mobilized for this research, including literature review, journals, blogs and website review, site visits, and interviews. The interviewees include regulatory authorities, mainly free zone authorities, and professionals within ICFUP, the Dubai municipality, and universities in the United Arab Emirates. Almost 50 interviews have been conducted. The collected data can be divided into two levels, of which the first is directly related to the topic and the second helps describe the general context. The following paragraph explains the first-level data in terms of their sources, interpretation, and usage in this paper.

After identifying 100 master plans in GCC countries by reviewing online resources, such as blogs, website, and journals, and by performing two site visits to the UAE in 2011 and 2012, those consultants who are involved in two or more master plans are selected for the study. Thirteen international firms have been identified, of which three have not responded to our interview request, thereby leaving 10 firms as the focus of this research. These 13 firms are responsible for 61 out of the 100 master plans, whereas 39 smaller international and regional firms are responsible for the 39 remaining master plans. We interview two persons from each firm. The targeted profiles are urban planners, mainly seniors or heads of departments, depending on their availability. The interviews are semi-direct and focus on the presence of the firms, their strategies in accessing and maintaining their position in the GCC, types of collaboration with other firms, theoretical frameworks, and mobilized communication and self-evaluation tools in the urban megaproject context in GCC. These firms include Aecom, HOK, Halcrow, Perkins and Will (P&W), Arup, KEO, Benoy Architects, Fosters and Partners, Dar al Handassa, and Khatib & Alami. All of the stated information is obtained from these listed sources unless designated otherwise. The data that are collected from an interview are followed by the bracketed name of the interviewed firm, such as (HOK).

2. ICFUP, actors of a new model of urban production

GCC cities are witnessing a large urban development that is characterized by the deployment of many urban megaprojects. In some cities such as Dubai, Doha, Abu Dhabi, and Bahrain, these urban megaprojects act as the major tool for shaping urban landscapes. As an unprecedented modality of urban development, GCC cities undergo a particular phase of development where the building of cities includes new

objectives, references, and actors. Compared with other Arabic cities, GCC cities have a relatively short urban history. At the beginning of the XXth century, the majority of the GCC cities are small urban settlements whose economies heavily rely on fishing and pearling. After discovering oil, these cities have undertaken massive modernization projects (Cadène and Dumortier, 2011) that principally focused on infrastructure and residential buildings. At the same time, GCC governments aim to build an image of a modern state by relying on the expertise of individuals, such as the case of John Harris in implementing the first master plans of Dubai (Elscheshtawy, 2013), and the presence of western firms, primarily in the domain of engineering, to build large infrastructures. In the last two decades, as a result of implementing economic diversification as a post-oil strategy, GCC cities have begun to search for a global city image that will place them at the international scene with other competitive world cities. Fascinating megaprojects are not only constructed to fulfill the needs of modern citizens but to attract international population and globalized investments. These developments are characterized by the emergence of for-profit para-statal real estate developers with mobile capitals and various investments worldwide.² In this context, ICFUP function as major contributors that transfer “globalized” knowledge for the implementation of new urban landscapes.

3. Interactions between contextual elements and operational mode; the ICFs as an analytical framework

This section examines how ICFUP adapts to the GCC context through several modalities of access to the market and how they contribute to the production of a city image that typifies the expectations of GCC city leaders. The issue of how these firms cope with the difficulties and challenges that emerge from this context, which may be related to the specificities of the command, the lean regulatory framework, or the complexity of their urban megaprojects, will also be examined. The major adaptations and changes within their procedural framework will be highlighted.

3.1. Challenges in the GCC market

3.1.1. Limited market and restricted network of actors

Despite its large number of megaprojects, the GCC construction market is relatively small. *“It is a very small community where all people know one another. Relationships are very important in this community. If one consultant does a good job for a developer, another developer will know about his/her performance, and so on”* (Keo 2). Our interviews clearly show that the professionals are knowledgeable about other companies, their work, strengths, and competitive advantages. More importantly, these professionals may have worked in many of these companies. Despite their limited market and competition, these firms often enter partnerships and coordinate with

²These data are collected from our interviews with experts in ICFUP and regulatory authorities, such as TECOM.

one another. Two firms may bid as competitors in some projects yet work in close coordination in others.

"Sometimes you compete, sometimes you coordinate... It is not an emotional profession... People move around most firms that operate in this context. One employee may work with KEO, then with Aecom, and then spend two years with Cansult. Therefore, these professionals are famous in the community. It's like people changing partners in a dance" (KEO).

ICFUP must be present within or close to major networks of power and decision to access the GCC market. In their search for new commands, ICFUP must have "well-connected" local partners in order to sustain their presence in this market. During the evaluation and review processes, the client³ or a client representative often shares key opinions regarding the implementation of master plans. Therefore, ICFUP must be flexible in dealing with this type of governance that is specific to GCC. Moreover, during different stages of urban projects, including the formulation of commands, the definition of project contents, and the review of master plans, the client has a prevalent role with which ICFUP must cope.

The powerful influence of local clients on the contribution of ICFUP is important in shaping the nature of knowledge transfer. GCC clients are strongly influenced by urban models and international projects that can contribute to the construction of the global image of their cities. However, GCC cities also aim for the consolidation of their own identity, which may be translated into urban forms. Our corpus of megaprojects shows the dominant role of water elements, such as canals and lagoons, in creating favorable characteristics in the GCC context even if many of our interviewees argue that such elements contribute to a high level of humidity. Moreover, symbolic shapes that evoke the elements of local identity and belonging, such as pearls and palms, represent the will of the client and not the choice of the consultant.

3.1.2. Enrollment of GCC major cities in the competition of world cities through records and spectacle in the absence of local expertise

As previously mentioned, GCC cities adopt a policy that searches for records and fascination yet require international expertise.

"Even if Dubai is the most telling example of this fascination, so that the term 'Dubaisation' now refers to megaprojects that seek scale and spectacle, many other GCC cities have also signed up to a similar process, as we stressed in the introduction. In the GCC, the majority of mediatized spectacular megaprojects are described as elements of the vision of their cities' governors (refer for example to the websites and brochures of the majority of GCC's megaprojects). This particular politico-economic system has privileged a development mode based on creating iconic megaprojects as foundations for a claim to global-city status, in line with the image of megaprojects as 'vehicles

for cities' revitalization and attraction" (Swyngedouw et al., 2002).

These megaprojects are distinguished by superlatives and by the efforts that each city dedicates to set records and create an image for itself. Man-made artificial islands, such as the Dubai Palms, Qatar Pearl, and Durrat al Bahrain, are created to accommodate large populations and cater to various functions. Recent to the GCC region, these urban megaprojects mobilize a technical prowess that requires a special expertise. Even if a few local engineering offices do exist, the tasks that are entrusted to them are merely secondary.

In this context, ICFUP are aware of their role in transferring professionals with the most innovative ideas and models. These firms focus on their fundamental role in bringing knowledge and technologies into a context that they consider "immature" and inexperienced in the urban domain. These arguments are consolidated by a specific reality in GCC that is related to the professionals in the domains of architecture and urban planning. Professionals, training, and experience in these domains are clearly absent in GCC. Urban planning and urban design-related specialties are not being provided in GCC universities. Most of the urban-related fields do not constitute a major domain within the academic milieu, and local universities rarely include such specialties in their programs. The architecture department heads of a university in Abu Dhabi were determined to establish an urban planning department, but were discouraged from doing so by the lack of opportunities for their future graduates in the market. *"The market, including the public and private sectors, prefers international experts over local ones."* Elsheshtawy (2008) argued that GCC officials were relying on western architects and planners to plan, design, form, and shape their cities and found that local academics and scholars were absent in any discussion pertaining to urban theory.

Given the absence of local experts and expertise, the situation in GCC can be described as a one-way transfer of knowledge. However, the experts in ICFUP have come from other Arab and Mediterranean countries, such as Lebanon, Palestine, and Egypt. These "local agents" contribute to a local-international interaction because of their knowledge about local languages, cultures, and manners. Many firms have emphasized the role of these experts in bringing further context-related knowledge to the other teams.

3.1.3. Market instability

The majority of the interviewees describe GCC as an unstable market. This market is frequently compared with the building market of far east cities where ICFUP have larger office networks and a more solid presence. One interviewee from Benoy Architects revealed that 80% of their turnover was related to the far east and was mostly driven by China. *"They went from a country of producers to a country of consumers, so now they need places to spend their money"* (Benoy). In this context of instability, projects may undergo either an "on hold" phase or an accelerated production phase, which directly affects the structure of firms that shrink and expand according to the market conditions. The selection of disciplines, professionals, and functioning mode also heavily depends on the current

³In the case of megaprojects, the client is often a large holding, a Sheikh from royal families, or the governor.

market situation. The majority of the international firms in GCC have reduced their office sizes, with some firms reducing their sizes to half or a quarter of their original size before the 2008 crisis (similar to the case of many of the interviewed firms). By the end of 2012, during which the interviews were conducted, the market was previewing a “stressful optimism” and many firms were slowly restructuring and recruiting again. Faced by such instability, ICFUP attempt to ensure its continuous presence despite having small teams. Such flexibility creates a certain logic of mobility in which key experts travel often and are only present on site when needed.

Considering that not all experts can be present in the same regional office, several types of communication are mobilized. For instance, some experts may work at a distance while communicating with regional offices through phone meetings, email, or other technology tools. *“Mobility is important, but given the capabilities of current technologies, the necessity of mobility has been reduced; I can sit here and have a teleconference with a colleague in Washington or London. We invested heavily in our IT... It has paid off because previously, we had to go to the airport, wait, and fly from one country to another. Usually, your biggest enemy in completing a project is time. Face-to-face meetings are incomparable with over-the-phone or online meetings, but you still achieve many things through coordination, and this factor has been very important in our company, specifically in its development at a global level”* (HOK). *“We share many resources online; we have an online skill network, so we continuously share things. We have many experts who attend conferences and work on interesting projects. Therefore, when they come back to the office, they share everything with the rest of the company”* (Arup).

Key experts may be relatively more mobile than other professionals. They travel to find units, train junior professionals, meet with on-site working teams, or meet with clients. They are often based in principal offices or the headquarters of their firms. Therefore, these experts can be regarded as the principal contributors in the knowledge transfer. However, such transfer, which is supposed to lead to learning, is limited within the milieu of each firm.

3.2. Coping with a particular regulatory context

3.2.1. Access to market

Several aspects of globalization, such as the opening of international markets and the development of communication technology, have facilitated the access of firms to international markets (Faulconbridge, 2009; Ren, 2011). However, the competition among firms and the need to sustain their international position and global image constitute major challenges (Korkmaz and Messner, 2008). “Going global” is part of a strategy, brand, and vision, whereas the office networks of firms mirror the network of global cities to a large extent (Knox and Taylor, 2005).

To access the GCC market, international (and all non-local) firms have to apply for a permit from the administration of the concerned country, which imposes several

conditions.⁴ For example, these firms must have a local partner and reach a specified number of local employees. The interviewees argue that these conditions are not always easy to fulfill. However, they acknowledge the usefulness of having a local partner who is knowledgeable of the local cultural context and the local network of professionals in the construction market.

We have identified the following methods through which the surveyed firms have accessed the GCC market:

1. By sending invitations from the client to a restricted number of firms;
2. Through competitions that follow the classical competition procedure;
3. Through partnerships with local or foreign consultants who are locally established. These partnerships are only temporary and will last only throughout the project duration; and
4. Through mergers, in which large firms acquire smaller firms. The latter may sometimes substitute as a sub-entity and often merge completely with the larger firms.

Given its continuous state of “acquisition,” Aecom is the most representative example of the last case. The two interviewees from Aecom have explained how smaller offices and companies are merged within the larger structure of Aecom, such as IDAW, Cansult & Maunsell, and others. These mergers allow for new markets to be accessed through already established structures that can contribute to both experts and clients.

The law that requires foreign firms to employ a certain number of locals (i.e., Qatarization or Emiratization) creates a milieu of interaction between local and foreign experts. However, most of our interviewees have noticed the relative inefficiency and incompetence of local employees, thereby truncating the learning process.

3.2.2. Absence of solid regulatory bodies and framework

Faced by the rapid urban growth in GCC (Cadène and Dumortier, 2011), municipalities and authorities in the urban planning domain have recently undertaken an upgrading process. For example, Dubai Municipality has been marginalized as a controlling authority because of the personal relationships between the private developers and the governing sheikh, who is the first actor that drives the development.⁵ Even Saudi Arabia, which is considered the first GCC country to undergo the modernization process and assumed to have more experience in managing urban growth and development than the surrounding countries, still suffers from the weakness of its regulatory bodies, the lack of coordination between these bodies, the overlapping of functions, and the outdated planning laws (Bala Garba, 2004).

ICFUP have an important role in regulating the planning system in the GCC context. These firms have a fundamental role in supporting governmental agencies through their consultancy services. This “support” is provided at two

⁴The market access issue has been highlighted in almost all of our interviews with ICFUP experts.

⁵Based on our interviews with professionals from Dubai municipality.

complementary levels, namely, the planning regulations formulation and/or updating and the formulation of strategic and structure plans for cities.

The planning regulations in the majority⁶ of the GCC countries are updated, evaluated, and completely set by international firms. Given the lack of effective regulations, many interviewees have been asked to propose new standards and norms, particularly in the case of megaprojects that require specific regulations that go beyond the competencies of the existing local regulatory bodies. For example, Dubai Marina, a 300 ha megaproject with more than 200 built and planned towers, has been continued despite the glaring absence of regulations. The regulatory framework is placed in parallel with the construction of the project.

"In Dubai Marina, when we constructed the first six buildings, none of us have ever heard anything about condominiums. Even the legislation did not exist. The legal framework had to be changed" (HOK).

Even if a regulatory framework does exist, those megaprojects that are regarded as special developments do not necessarily adhere to such framework. Therefore, new regulations are often proposed in parallel with the conception of the master plan. For example, in Abu Dhabi, the contribution of international firms is crucial in the development of a modern regulatory framework.

"A few years ago in Abu Dhabi, you can find different buildings in different parts of the city that adhere to different things, depending on whether the consultant is from the US or the UK. The municipality regulations at the time were not strict enough to cover everything" (P&W).

The Dubai 2020 strategic plan, which has been prepared by Aecom, is a representative example of this case. After the booming market has generated various fragmented developments in Dubai that reflect the different agendas of developers, the sheikh and his circle of decision makers have realized the importance of establishing a unified vision of the city with a major objective of harmonizing the agendas of different actors and administrative and semi-governmental authorities.⁷ After its appointment to create this strategic plan, Aecom acts beyond its expert role by coordinating different players.

A similar example is the role of Perkins & Will (P&W) in implementing planning and building regulations within the Urban Planning Council of Abu Dhabi. Similar to Dubai, the Abu Dhabi 2030 is a vision for the city that is initiated by its governor. Abu Dhabi has more developed green guidelines than other GCC countries. P&W has a major contributing role in the formulation of Estidama, the green guidelines that are exclusively conceived for Abu Dhabi, as well as the global framework of urban and building regulations. Estidama is an expressive example of norms transfer and is considered the equivalent of LEED (the American green

standards) that has been adapted to the local context with a major contribution of ICFUP.

In all cases, the factors that reinforce the role of international expertise include the need of GCC cities for new standards to address the pressing constraints that emerge from environmental, social, and urban issues and their need for developing a global city image amid the competition among cities worldwide.

With regard to the role of knowledge transfer in setting regulations, the interview data reveal a clear interaction between ICFUP experts and municipality professionals who mostly comprise locals. This interaction seems efficient and demonstrates the potential to inspire mutual learning. Such potential is reflected by how local employees evaluate, assess, and orient themselves with the contributions of ICFUP in setting new plans and regulations. Moreover, the employees of local municipalities are more knowledgeable than foreign experts about the various aspects of their context.

3.3. Operating in the context of a specific urban product: the megaprojects

Out of the 100 megaprojects in the corpus, 61 have been completed by large international firms, thereby indicating the profound involvement of these firms in GCC urban production and the heavy reliance of decision makers on these firms. Moreover, the involvement of these firms in several megaprojects reflects their highly consolidated status within the market. According to an interviewee, *"The important project is not the first, but the next, the third, and so on."* However, this type of development involves a plethora of challenges and difficulties to which ICFUP must adapt.

3.3.1. Limited production time and absence of feasibility studies

The lack of feasibility studies constitutes a major challenge for ICFUP. The interviewees claim that developers do not understand the need for these studies. These developers believe that a "beautiful project" will not fail, so they merely base the success of a project on its design. Furthermore, developers usually want to start building as soon as possible, specifically in a booming context where profit is the major goal of an investment project. In sum, these developers perceive preliminary studies as time consuming.

The interviewed consultants agree that the client's brief must be reassessed and analyzed. Feasibility studies are often replaced by the production of a series of concepts through which the client and the consultant will "test" the design. For instance, the Yas Island master plan produced 22 versions through which the client and the consultant "tested" the market (Benoy). DubaiLand also produced several versions that transformed the megaproject from a huge theme park that was thrice the size of Disneyland to a series of themed residential areas (Halcrow).

Despite their varied reactions to this situation, the consultants all agree that feasibility studies must be conducted to produce high-quality plans. *"If you want to obtain excellent results from a consultant, you have to give him*

⁶Our interviewees frequently mention Saudi Arabia, United Arab Emirates, Qatar, and, to a lesser extent, Bahrain and Oman.

⁷Based on our interviews with professionals from Dubai municipality and Aecom.

information; otherwise, the project will not be as good as you expected" (HOK). "We absolutely want this level of study, which gives us protection. The more we understand a project, the more we can address it at all levels" (Keo).

Speculation and limited production time present two other challenges in GCC. Time is the most precious factor during a boom period when development is driven by speculation and is unrelated to the actual needs of the future population. Therefore, developers typically impose a short time limit in conceiving master plans. Many interviewees argue that they are only given 25% of the required time to complete a master plan. An interviewee from Aecom narrates that he is often given only one week to design a master plan for an urban megaproject. Some interviewees are confident about their ability to cope with limited time, whereas others argue that such limitation may compromise the design quality.

3.3.2. Between global and local: searching for references

ICFUP are also challenged by the cultural and geographical contexts of GCC. Previous studies show that local contexts can affect architectural and design practice; therefore, contextualizing the design within local environments is a difficult task (Imrie, 2007; Faulconbridge, 2009). In the GCC context, the interviewees invoke general references and norms, such as international norms and best practices. Given the context constraints, the proposed solutions and ideas are limited to broad and general matters, such as "respecting the local culture" and "being aware of climate specifics." Healey and Upton (2010, pp. 15-18) argue that international mobile experts have insufficient time to examine local conditions and the related constraints. The major challenges of firms is to deliver what the client wants on time and leave no space for conducting preliminary studies that are related to socio-cultural or feasibility aspects. According to one interviewee, they are not given any time to evaluate plans during a boom period.

"In my position, taking a step back to see the overall picture is difficult. However, an academic or a researcher who sits on his desk can easily criticize, identify those things that may not work, determine what is not sustainable, point out the problems in the master plans, and suggest the things that are not well connected. You are too busy thinking about your next project. You don't have the time to sit on your computer and read about new urbanism. When you have plenty of work to do, you cannot step back and view the whole picture. However, I would prefer to have this distance again to see the bigger picture" (KEO 2).

Given its lack of norms, references, and experience, GCC is considered by scholars as a laboratory for urban planning (Barthel, 2010). According to Ren (2011, p. 38), "Star architects⁸ rush there to build the dream projects that probably would not be built anywhere else, and young architects rush here as well to be in the action." Therefore,

in the transfer process, GCC countries act as magnets for ICFUP and international experts in general. Being a part of a world where things happen yet will not occur elsewhere, ICFUP have entered GCC to achieve strategic growth and international image. One interviewee in KEO emphasizes the importance of indicating in his CV that he has worked on large megaprojects in Dubai and other GCC countries.

The following section examines the diversity of ICFUP in GCC. Whether regional or international, architecture- or engineering-oriented, these firms have differences and similarities in terms of how they adapt their knowledge, operational modes, and structures into the GCC context.

4. Between architectural and architecture - engineering firms: similarities and differences

4.1. Toward a typology

Firms in the buildings and construction domain may have different typologies. *Engineering News-Record*⁹ distinguishes numerous firm categories, such as architecture and design firms, architecture and engineering firms, and architecture, engineering, and construction firms. However, overlapping is commonplace among these firms, thereby leading the same firm to be listed as architecture and design as well as architecture and engineering. Such overlapping is particularly noticeable among those firms that are primarily focused on architecture and have acquired engineering competencies over time (HOK for example), but whose base practices still lie on architecture and design. Many studies have suggested typologies for architectural firms (Gutman, 1988; Winch and Schneider, 1993; Olds, 2001; Ren, 2011) based on the level of experience, ability to deliver, and design excellence. In terms of size, international architectural firms are generally distinguished into large corporate firms—also called supermarket-style by Ren (2011, p. 34) because of the broad range of design-related services that they offer—and small offices or "starchitects." Overlapping may be observed even in this size-based typology, as in the case of Foster & Partners, which is considered a "starchitect" firm despite its fairly large corporate size (Ren, 2011; McNeill, 2005).

The majority of the international engineering firms have added architecture and planning departments to their structures. However, these newly added practices are not part of the core activities of these firms. When promoting themselves, engineering firms initially focus on their engineering expertise and treat architectural services as a secondary practice. These firms are thereby called engineering and architectural (EA) firms.

Proposing a typology is a difficult task. Given the variety of related factors that may induce overlapping, we suggest a simplified classification in our context. Specifically, we contrast those architectural firms that chiefly focus on architecture from EA firms that primarily focus on engineering practices (see Table 1).

Architecture and EA firms have numerous differences that can be related to their strategies, assets, and targeted markets.

⁸For example, the UMP Dubai Waterfront by Rem Koolhaas, which is considered by the New York Times as a "grand urban experiment" that would not have been built elsewhere (Ouroussoff, 2008).

⁹*Engineering News-Record* is a weekly magazine published by McGraw-Hill that provides news, analyses, data, and opinions for the construction industry worldwide.

Table 1 The surveyed firms, divided into architecture and EA firms, and the number of master plans handled by each.

Architecture firms	EA firms
HOK (7)	Aecom (12)
Benoy Architects (3)	Arup (2)
Foster & Partners (2)	Halcrow (8)
Perkins & Will (2)	KEO (7)
	Dar al Handasa (5)
	Khatib & Alami (2)

Morris and Empson (1998) argue that the major asset of architecture firms is their creativity, whereas that of engineering firms is their distinctive competence in technology.

In our survey, the architecture firms can be all regarded as “strong idea” firms following the classification of Gutman. Based on this classification, Foster & Partners must be considered a “strong idea” firm, whereas the other firms are considered “strong experience” firms. Given that the targeted comparison is not among architectural firms, the architecture/engineering interface is targeted in our context. Therefore, we adopt the simplified classification of Olds (2001), who divides architecture firms into two categories, of which one seeks design excellence and the other has more experience in “mundane” services. In our context, architecture firms can be classified under the first category, which is equivalent to the “strong idea” appellation.

Our survey also covers three international firms that are relatively regional, namely, Dar al Handasa, Khatib & Alami, and KEO. Although these “international/regional firms” have many representative offices throughout the world, their major market is the Middle East. However, their structure and strategy are, to a large extent, similar to those of EA international firms. Some nuances that differentiate international from regional EA firms are mainly related to the interrelations with the local context.

4.2. Communication and mobility

Mobility and complementarity are the major characteristics in the structures of both architectural and EA firms. However, these aspects are more significant and crucial in the matrix structure of EA firms because of the numerous specialties and sub-specialties. Within these structures, not all specialties are present at a country level or even at a sub-region level (e.g., for most of the studied firms, GCC is considered a sub-region in the Middle East, whereas UAE is considered a country in the GCC sub-region). The presence of a certain specialty in an office depends on several factors, including market demand, office size, and availability of specialized professionals. As a result, resource mobility is crucial in how the matrix operates. *“There are too many disciplines and it doesn’t make sense to have every discipline in every office, so we share much of our resources across the offices”* (Arup). “Sharing resources” may indicate sharing knowledge, projects, or professionals. Projects may “travel” from one country to another depending on the team or office that is appointed to work on them, and people may also travel depending on various factors,

particularly the location of the project. Many other factors can also limit professional mobility, such as the financial aspects, climatic constraints, and cultural aspects of a country. For example, the occasional instability in Bahrain and the cultural context in Saudi Arabia discourage foreign professionals from living in these countries.

4.3. Differences in structure

According to Morris and Empson (1998, p. 621), the nature of the knowledge base influences the organizational structure of the firm. Consequently, architectural and EA firms have different structures that reflect their strategies and the types of their targeted markets. Previous studies mainly distinguish architectural firms from other firms because of their capacity to design at a distance (Faulconbridge, 2009) and design projects worldwide from a single design-studio, as in the case of starchitects (McNeill, 2005).

Interestingly, EA firms have a more solid and confident presence in GCC than architectural firms in terms of access to local networks and projects. Such presence may be validated in the following aspects:

1. Engineering-related tasks and projects require on-site presence, thereby driving EA firms to establish offices near their project locations;
2. Given that EA firms offer various services ranging from transportation to infrastructure, environment, and management, these firms will continuously engage in different projects, whereas architecture firms have minimal chances of undertaking more than one project in the same city; and
3. Given that engineering firms have been present since the middle of the XX century when oil-based economies require western expertise to undertake major modernization infrastructure projects, engineering firms seem to have a longer experience and presence in GCC.

Therefore, the interview data show that architectural firms have a non-continuous presence in GCC. After the end of each project, architectural firms undergo a major restructuring of their offices, whereas EA firms, with their multidisciplinary departments, can maintain a more continuous presence.

The departments of EA firms are organized based on a matrix structure that is built upon “business lines” and “geographies.” Designated as well by divisions, practices, or business groups, each “business line” includes several departments, with each department housing a number of specialties. These business lines are distributed through a series of “geographies” or regions that may also be divided into sub-regions, which in turn may be divided into countries. For example, the offices of Halcrow are distributed through four regions, namely, UK and Europe, Middle East and Africa, Asia, and the Americas. Regional EA firms adopt a similar matrix structure, with the majority of their offices located in the Middle East yet their presence in Europe and the Americas is timid. In this matrix structure, EA firms demonstrate a certain level of autonomy vis-à-vis their headquarters.

In contrast to EA firms, architectural firms adopt a pyramidal structure that is based on the architecture practice. The other practices (i.e., engineering and management), if

present, support the architecture and design in general. EA firms in GCC can hire a few hundreds to thousands of employees (in the case of Aecom for example), whereas the architecture offices in the same region only consist of 20 staff members or less. Despite being design focused, these offices are considered secondary or branch offices because they are primarily composed of architects and do not provide the full design of projects. Other senior designers or team design at the headquarters level (UK for Benoy and Foster, and USA for HOK and P&W) may initiate ideas or concepts, thereby leaving the task of developing schemes and plans and coordinating with clients to the country-level offices.

Architectural and EA firms not only differ at the general structure level but also at the team structure level. The profiles of those professionals who plan tasks considerably vary between these firms, and a planning department may or may not exist within a firm. The planning department, specifically that of an architectural firm, may be an independent one or a sub-division of another department. Moreover, architectural firms do not clearly separate planning from architecture, which are both categorized under the “design” practice. For example, the designer profile seems to be dominant in Foster & Partners:

“We may have urban planners in our teams, but there are not too many; everyone here is an architect, and we have a way to design things. An architect may work on a table design for this month and on a master plan for the next month. We believe that if an architect keeps working on the same things, he will lose his creativity. Moreover, the same architect who designs a chair can also design an airport with assistance from a support staff” (Foster & Partners).

Profiles in architectural firms primarily include architects, landscape architects, and urban designers. By contrast, the planning-related profiles in EA firms are highly varied and specialized. For example, aside from the classical practices in architectural firms as previously noted, the profiles in EA firms include land development planners, economic planners, strategic planners, transport planners, environmental planners, and GIS experts.

In both cases, the presence of a larger palette of profiles in EA firms neither constitutes a competitive edge over architecture firms nor limits their important contribution to GCC developments because architecture firms will search for external complementary skills when needed for megaprojects.

4.4. Different modalities in entering the GCC market

Correlations may be identified between firm types and market entry. In GCC, EA firms are usually approached with a limited invitation; clients initially invite a select group of consultants, after which several factors, such as personal relations and financial issues, are considered in the final selection. Architectural firms are often approached through personal invitations; alternatively, they may enter the market by engaging in a large competition. In the latter, the client invites architectural firms to submit a proposal for a megaproject that requires an image or a special concept to be promoted. This modality goes beyond competencies to

resolve technical complex issues that are related to urban megaprojects. For instance, Foster & Partners has been involved in the conception of the master plan for Masdar City in Abu Dhabi, which is promoted as the first zero-carbon city in the world. Moreover, Benoy has been invited to design a master plan for Yas Island in Abu Dhabi, an entertainment and mixed-use island that hosts a Formula One track and related infrastructures.

Aside from reputation in creativity or technical expertise, the embeddedness in the local context is a crucial factor for the entry of firms in GCC. Those firms that have been present in GCC for many decades, such as Halcrow, can access projects in the region much easier than those firms that have recently attempted to access this market. This factor poses a major challenge for international/regional firms because knowing the market is not sufficient. The primary challenge is to compete with international firms that have better reputation. Our interviewee in Keo argues that his firm has encountered significant challenges in building an image that is equivalent to famous international firms in a context that is highly influenced by international names.

“Everybody wants a Louis Vuitton bag even if it forms cracks within three months. Therefore, it is sometimes difficult for us to compete with all international firms in this region and to gain the same level of respect” (Keo).

4.5. Different methods of self-evaluation and review

Firms have different approaches for evaluating their work before delivering it to their clients. Design board, internal and external peer reviews, and “project delivery manual” are identified as self-evaluation tools in our surveys. In the case of centralized firms, such as Foster & Partners, quality control is performed via a central board that reviews and controls the design quality. By contrast, those firms that lack a centralized structure can use many tools to ensure that their final products have the same quality and labels. These quality checks can be performed implicitly through manuals and documents or explicitly through communication and experience sharing between the different offices of the firm. Internal self-evaluation usually requires the presence of key experts within the firm.

EA firms have more decentralized common review tools that can be applied through offices worldwide, whereas architectural firms have different levels of centralized design control around key persons (senior architects) and designers (or Norman Foster, as in the case of Foster & Partners).

5. Conclusion

This paper aims to examine the knowledge transfer process that is performed by ICFUP in GCC countries. ICFUP constitute a major powerful actor in shaping GCC cities, which have witnessed a massive urban transformation that differs from previous types of urban development, have a relatively short urban history, and lack expertise, professionals, and norms in the real estate market.

The adaptation of these firms with market instability and client demand has been examined. Given the complexities

of urban megaprojects within the politico-economical context of GCC, ICFUP must undergo a plethora of adaptation procedures that are related to their internal organization, their modalities in accessing the market, and their role in offering expected expertise to a demanding client to perform in an unstable construction market where existing knowledge and urban laws cannot cope with the ongoing spectacular developments. In terms of adapting their theoretical framework, we have examined how powerful clients can affect the design and final urban form of megaprojects for two reasons. First, key actors search for a global city image by investigating international models and urban references. Second, these actors search for an urban form that consolidates the identity of their cities regardless of the expertise and contribution of ICFUP.

We also set a typology that differentiates architectural firms from engineering firms. Each typology is characterized by several aspects, such as structure, access to market, and self-evaluation methods. The procedural framework is transferred differently in each typology, and the means of adapting to a local context vary in each case. Given that engineering firms are related to technologies while architecture firms are related to creativity, the former serves as actors of a complete transfer because technologies are required per se, and no modification from clients is likely to occur. In some cases, this technology-related knowledge is challenged in the context of spectacular megaprojects, such as artificial islands and canals. In the case of architectural firms, the "creative" contribution is frequently subject to modification and discussion because it can be easily linked with the aspects that are related to market trends, the desired image of the client, or aspects that are related to the context, such as cultural, environmental, or identity-related aspects.

In terms of structure, the centralized review system of architectural firms contributes to a direct transfer; by contrast, in the case of EA firms, the capacity of local offices to establish their own review process can result in an adaptation process that is influenced by local factors.

We then return to Ewers' question about the extent to which the imported expertise can leverage local capacity development and contribute to learning. Learning occurs in the case of ICFUP by setting new plans and regulations for municipalities. In this case, the interaction with local professionals can result in a learning-resulted transfer. As for the local laws that require foreign firms to employ locals, the presence of locals within ICFUP is not entirely efficient because these employees often lack experience and do not benefit from their interaction with foreign experts, thereby truncating the learning process. The market regulatory challenges also require ICFUP to have local partners, which can induce a certain level of interaction with local professionals and subsequently result in learning.

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